

ihmri news

News from the Illawarra Health and Medical Research Institute

From the Executive Director

Investing in Research

A recent National Health & Medical Research Council press release reported the Commonwealth had committed to maintaining research funding for 2010/11 at least at 2009/10 levels. A figure of \$715 million is estimated, a 1.7% uplift on the previous year. This is inadequate to support Australia's existing health and medical research community – the problem will worsen as newly trained scientists attempt to establish themselves as independent researchers.

Australia spends an estimated 0.10% of its annual gross domestic product (GDP) on health and medical research. While only slightly less than the UK's spend, it is less than half the US level of 0.23% of GDP. The inadequacy of current funding is illustrated by the NHMRC's own statistics - 60% of grant applications (over 1700) judged worthy of funding cannot be supported under current allocations.

At the same time the cost of research is increasing. With research success comes the need for more facilities, with increasing costs of construction. Quality basic research demands a range of sophisticated equipment, which has expanded significantly over the last decade.

Costs for purchasing, using and maintaining such equipment are extraordinarily high. Clinical research is governed by important but complex regulation making trials a staff intensive, thus expensive, activity. Increasing use of expensive equipment such as

functional MRIs and population health studies involving large amounts of data from hundreds or even thousands of participants add further to escalating costs.

A two-fold strategy is needed - increased funding for research and a committed effort to manage costs. For Australia to remain a significant force internationally our national commitment to health and medical research needs to be lifted from 0.10% to something closer to 0.15% of GDP at a minimum.

We also need to increase philanthropic support for research; as a nation we underperform in this area. More inter-institutional collaboration around joint equipment purchases, building cultures of sharing within institutions, and establishing robust approaches to streamlining and prioritising expenditure will help contain burgeoning costs.

Importantly, an increased investment in research would yield significant dividends for the nation. The Australian Society for Medical Research estimates each dollar invested in health and medical research yields \$2.17 in health benefits.

The next few years will be challenging for health and medical researchers as significant increases in funding seem improbable – we must, however, continue to inform the public of the value of research, and do what we can to manage research costs. ■

Prof Don Iverson,
IHMRI Executive Director

If you have colleagues who may be interested, please pass on this newsletter and invite them to join the IHMRI Research Network at ihmri.uow.edu.au/network

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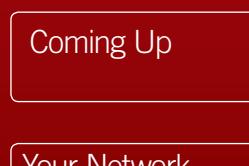
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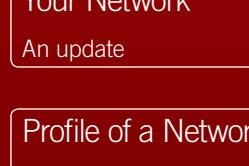
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Introducing...

The IHMRI Operations team has been growing steadily to match the organisation and its needs, with several new appointments made since late 2009. Here are six new members of staff who will work directly with researchers to facilitate and support the IHMRI research effort.

Receptionist

Rachel Lin

We are pleased to welcome IHMRI headquarters' receptionist, Rachel Lin, to the team. As an research facility, access to the IHMRI building will be restricted so Rachel will be the first point of contact for visitors to IHMRI and for telephone enquiries. Reception is located on level 1. The phone number for general inquires is 4221 4333.

Operations Manager, Laboratory & Clinical Research

Dr Kellie Ridges

Kellie came to IHMRI from the School of Health Sciences. In her role at IHMRI, she manages the operational aspects of running the IHMRI building, including the Clinical Research and Trials Unit (CRTU) and laboratories. She oversees the professional and technical staff that work in these areas.

Research Development Team Leader

Dr Karyn Ridgway

Karyn joined IHMRI in 2009 as a senior technical officer to facilitate equipment planning, purchases and relocation strategies. In her newly created role, Karyn and her team will provide key support to the IHMRI research themes.

Clinical Trials Coordinator

Manuela Glinski-Smith

Manuela will coordinate the clinical trials that operate from the new IHMRI CRTU. She has previously worked as a clinical trials coordinator at the Cancer Care Centre, St George Hospital and also at St Vincent's Hospital.

Senior Technical Officer

Linda Deitch

Linda has had many years experience working in biological laboratories at the University of Wollongong. At IHMRI she will oversee the technical operations of the research laboratories and manage technical staff.

Technical Officers

Dr Amanda Reid, Katie Hall

Mandy and Katie will provide technical support to researchers and students using the new facilities.

Congratulations

Illawarra Retirement Trust

The Illawarra Retirement Trust (IRT) has launched a new grants program through its recently formed Research Foundation. The inaugural round of grants, worth a total of \$120,000, featured three projects co-funded by IHMRI and to be conducted in the IHMRI facilities.

Congratulations to the IRT for launching this important new initiative, and to the successful recipients:

- ▶ Dr Justin Yerbury and Dr Heath Ecroyd (School of Biological Sciences)
- ▶ Dr Francesca Fernandez Enright (School of Health Sciences)
- ▶ Professor Sandra Jones (Centre for Health Initiatives)

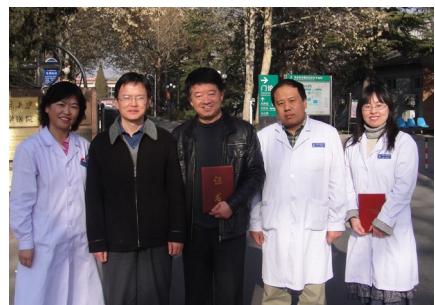
See 'Research Spotlight' for more information about these grants.

Australia-China Exchange

Two NHMRC Australia-China exchange fellowships have been awarded to postdoctoral scientists under Professor Xu-Feng Huang's supervision in IHMRI's Metabolic Conditions theme. The first, 'Evaluation of functional protein molecules in treating obesity', is a training fellowship for Yinghua Yu and involves collaboration between the University of Wollongong and Zhejiang University in China.

The second fellowship has been awarded to Mei Han for her project 'Understanding the role of neurgulin-1 genetic polymorphisms in patients with schizophrenia', which is being carried out in collaboration with the Psychiatric Research Center at Beijing Huilongguan Hospital.

Pictured: Collaborative research team members from the left, Head of therapeutic unit, Head chair of the hospital, Prof Huang, Research Head, Lab Manager.



ARC Super Science Fellowships Awarded to UOW

Congratulations to Prof Gordon G Wallace, Dr Simon E Moulton, A/Prof Robert Kapsa, Prof David Officer and Prof Hua Kun Liu for their project entitled "Three dimensional polymer structures for bionic applications". This team was awarded \$556,800 for two Super Science Fellowships commencing in 2010.

Other successes

- ▶ PhD student Blake Cochran (UOW School of Biological Sciences and IHMRI Cancer Continuum theme) for winning a best poster prize at the 35th Lorne Conference on Protein Structure and Function held in February
- ▶ Simon Sadler, a Dietitian with the Albion St Centre and part time PhD student (UOW Smart Foods Centre and IHMRI Nutrition theme) for being awarded an Endeavour Research Fellowship to continue his work on nutrition education in Thailand
- ▶ Sze Yen Tan, also with UOW Smart Foods, who has been offered a post doctoral position in the laboratory of Professor Rick Mattes at Purdue University, USA.

Research Awards

The 2010 Vice-Chancellor's Excellence in Research Awards, which recognise outstanding contributions of academic staff and their partners towards research excellence. Health and medical researchers featured prominently in the 2010 awards.

Research Excellence for Senior Researcher Award (Highly Commended):

Prof Stephen Pyne (School of Chemistry, Faculty of Science)

Research Excellence for Emerging Researcher Award (Highly Commended):

Dr Heath Ecroyd (School of Biological Sciences, Faculty of Science)

Interdisciplinary Research Excellence Award:

A/Prof Stephen Blanksby (Faculty of Science) and Dr Todd Mitchell (Faculty of Health & Behavioural Sciences)

Project: New Methods to complete the lipidomics puzzle

Outstanding Achievement in Research Partnership:

Dr Trevor Crowe and Prof Frank Deane (Faculty of Health & Behavioural Sciences) with Industry Partner The Salvation Army

Project: Evaluation and Review of Substance Abuse Programs

Outstanding Achievement in Research Partnership (Highly Commended):

Prof Kathy Eagar, Rob Gordon, Janette Green and Frances Simmonds, with Industry Partners Australasian Faculty of Rehabilitation Medicine, Commonwealth Dept of Health, all State and Territory Health Depts, all public and private rehabilitation units, all Health Funds and the Dept of Veteran Affairs

Project: Australasian Rehabilitation Outcomes Centre

Award for Excellence in Research Supervision:

Professor Xu-Feng Huang (Faculty of Health & Behavioural Sciences)

Award for Excellence in Research Supervision (Highly Commended):

Dr Tony Okely (Faculty of Education)

These awards were formally recognised at the Vice-Chancellor's Award Ceremony on Friday 11 June.

News

IHMRI building opens July 2010

IHMRI's new headquarters on the University of Wollongong's main campus will be officially opened in July 2010.

Finishing touches are currently being put on the building, and clinical and technical staff are working furiously to prepare for the move. The IHMRI Operations team is liaising with researchers to arrange fit-out and moving logistics and developing operational procedures that will be implemented once the move is complete. We anticipate some very busy times ahead, but are looking forward to a smooth transition for everyone involved.



ITC Ltd provides a \$4M medical research boost

Health and medical research benefitting the Illawarra community will be the main beneficiary of a \$4 million dividend presented on 29th April to the University of Wollongong by ITC Ltd.

CEO of ITC Ltd, Mr Vince Lendum, said it was extremely pleasing to be able to assist such a worthy cause as the research being carried out by the Illawarra Health and

Medical Research Institute (IHMRI). The \$4 million dividend presentation follows from last year's dividend presentation of \$6 million from ITC Ltd to IHMRI to assist with its medical research.

"IHMRI's research work will have far-reaching consequences for community health in the Illawarra," Mr Lendum said.

\$2.5m grant for Personality Disorders Clinic

NSW Minister Assisting on Health (Mental Health) Barbara Perry visited the Illawarra Health and Medical Research Institute (IHMRI) on 21st May to announce the Institute as the successful tenderer to conduct a three year project to help treat people with personality disorders.

Project leader for the new service, Professor Brin Grenyer, said the Illawarra Health and Medical Research Institute plans to develop innovative treatments for patients with personality disorders based on best research evidence.

"Such support is significant because it will allow us to make these new integrative collaborative treatments widely available to a group in the community that have often been overlooked or misunderstood," Professor Grenyer said.

Pictured: Minister Assisting the Minister for Health (Mental Health), Barbara Perry (front row, second right) at the announcement ceremony with (front row from left) Professor Don Iverson, Professor Judy Raper and Mr Terry Clout; and (back row from left) Sue Baker-Finch, Professor Nagesh Pai, Susan Daly, Michelle Bradley and Professor Brin Grenyer



The bionic man

If you have an interest in bionics, Professor Gordon Wallace is your man. Executive Research Director of the ARC Centre of Excellence for Electromaterials Science, Intelligent Polymer Research Institute, University of Wollongong, Professor Wallace is at the forefront of new materials for bionics research in Australia today.



Describing bionics as the interfacing of biology and electronic devices, Prof Wallace cites the most famous Australian example as the bionic ear, or cochlear implant, developed by Prof Graeme Clark. "The bionic ear is an example of a prosthetic device that improves performance. There are also neural prosthetics, such as the robotic hand, which are driven by the brain and require effective neural interfacing with electronics. Regenerative bionics is another area, where a conduit is used, for example, to facilitate nerve repair."

Bionics is a relatively new but rapidly expanding field. "Thirty years ago, the range of materials available for use in bionics was limited," explains Prof Wallace. "Over the last 20 years or so, there have been really big advances made. Organic materials that conduct electricity were discovered, and bio-compatible materials have become available that create all sorts of possibilities for biomedical bionic devices."

Progress in medical bionics has accelerated at an unprecedented rate over the last five years, thanks largely to the forging of strong links between researchers and clinicians. "As clinicians become interested in using these materials for nerve repair, muscle regeneration, epilepsy detection and control, and even bone regrowth, research collaborations are being established that focus on providing solutions to clinical problems. So our research is really driven by clinical need," says Prof Wallace. ■

One for the diary

On Tuesday 13 July (6-7pm) Prof Gordon Wallace will give a joint presentation – the second of IHMRI's quarterly seminars – with Melbourne neurologist Dr Mark Cook. The topic is 'Translational research' and was chosen in response to feedback received by IHMRI at its strategic



planning day held earlier in the year, that the term 'translational research' is much used but little understood. The presenters will take a case study approach to illustrate the translational research process, focusing on their collaborative development of a polymer brain implant to control epilepsy.

To register for this event, please use our RSVP service at <http://ihmri.internetrix.net>

Research Spotlight

New grants program to benefit seniors

A new grants program supporting research aimed at benefiting older people was recently launched by the Illawarra Retirement Trust (IRT) through its recently formed Research Foundation. Three projects submitted by IHMRI researchers involved with the Healthy Ageing theme and co-funded by IHMRI were successful in the first round of grants, announced during Senior's Week in March and worth a total of \$120,000.

"The IRT Research Foundation is a new initiative of IRT, to progress projects that assist a greater understanding of the ageing process and the care and wellbeing of senior Australians," explains IRT Chief Executive Nieves Murray. "We look forward to the positive contribution the research will make to the lives of older Australians."

One of the three grants, awarded to Dr Justin Yerbury and Dr Heath Ecroyd from the University of Wollongong (UOW) School of Biological Sciences, will support research on molecular chaperones as agents of the ageing process. The ultimate goal of this research is to develop therapeutic drugs to combat ageing and age-related disorders and disease.

"Protein aggregation – the unfolding and clumping of proteins that inhibits their function – is linked to a number of serious age-related neurodegenerative diseases, including Alzheimer's disease, Parkinson's disease and motor neurone disease," says Dr Yerbury. "Research into molecular chaperones, molecules that act to prevent protein aggregation, may help us better understand the

process of ageing and how diseases associated with ageing may be delayed or perhaps even prevented."

Also successful was Professor Sandra Jones, Director of the UOW Centre for Health Initiatives. Prof Jones and her team will be researching different approaches to encourage healthy behaviours that improve older people's wellbeing and lifestyle.

According to Prof Jones, while there is plenty of health marketing aimed at encouraging children and young adults to be active, there has been a lack of health marketing aimed at older people. "I find it frustrating that there is a perception that we can't do much for aged people and that this can influence the motivation and self perception of people who think it doesn't matter because they are old," she says.

The third grant was awarded to Dr Francesca Fernandez Enright in the UOW's School of Health Sciences. Her project will investigate the prevention and early diagnosis of Alzheimer's disease, using gene expression profiling in a case-control population in the Illawarra.

"The number of people with dementia is predicted to quadruple over the next 40 years," says Dr Fernandez Enright. "We want to find a better way to detect the onset of dementia, specifically Alzheimer's disease, and to generate research findings that help pave the way to better treatments and even prevention."

For information on the IRT Research Foundation please visit www.irt.org.au/irtfoundation ■

Recent Events

Multiple Sclerosis and other diseases of unknown origin; Are viruses the cause?

In April, as part of IHMRI's Seminar Series, Professor Julian Gold presented the latest evidence that suggests viruses may be the cause of Multiple Sclerosis and many other diseases, and he suggested that we are only just beginning to understand the huge role that viruses play in human existence.

Professor Gold is Medical Director of the Illawarra Health and Medical Research Institute (HMHRI) Infectious Diseases research theme; Director and Senior Staff Specialist at the Albion Street Centre, Prince of Wales Hospital, Sydney; and Director of the World Health Organization (WHO) Collaborating Center for Capacity Building and Healthcare Worker Training in HIV/AIDS Care, Treatment and Support.

The event drew considerable interest with about 100 researchers and interested community members attending.

From test tube to bedside...

Professor Mark Wilson and Clinical Professor Jan Potter gave a presentation entitled: "From test tube to bedside", as part of the University's URC Research Showcase Series 2010, last May. The presentation was attended by approximately 100 people and all agreed it was informative and entertaining.



Mark and Jan are scientific and medical directors for the Healthy Ageing Theme of IHMRI. They are currently working together to investigate the role and levels of extracellular chaperones in dementia at various stages of dementia and/or treatments.

More at: www.uow.edu.au/research/news/showcase/UOW077971.html

From pervasive to invasive: Our future with technology?

Dr Mark Gasson, School of Systems Engineering, University of Reading, UK gave an IHMRI sponsored presentation on 10 June entitled: From pervasive to invasive: Our future with technology?

Dr Gasson was visiting Australia to participate in the 2nd Asia-Pacific Symposium on Nanobionics which was held at the Innovation Campus. His IHMRI presentation had everyone enthralled as he gave an insight into emerging technologies in implantable devices and robotics and featured a case study on deep brain stimulation.

More information on Dr Gasson and his team's work can be found at

www.reading.ac.uk/cirg



Image courtesy of School of Systems Engineering, University of Reading

Coming up

Tues 13 July, 6.00 pm – 7.00 pm

IHMRI Seminar: Translational research – a case study in bionics

Prof Gordon Wallace, Executive Research Director of the ARC Centre of Excellence for Electromaterials Science, Intelligent Polymer Research Institute, University of Wollongong

Prof Mark Cook, Professor & Director of Neurology, St. Vincent's Hospital & University of Melbourne

IHMRI Lecture Theatre, Ground Floor Building 32, University of Wollongong

NB: This will be the first event to be held in the new IHMRI headquarters!

Please register online using our RSVP service at
<http://ihmri.internetix.net>

Tues 27 July, 12.30 pm – 1.30 pm

Seminar: Application of Aptamer Technology in Cancer Nanomedicine

A/Professor Wei Duan, School of Medicine, Deakin University University of Wollongong, Building 40 Lecture Theatre 311
No registration required.

Wed 1 September, 5.30 pm – 7.30 pm

IHMRI Networking evening

City Beach Function Centre

Speaker and registration details will be announced in August

19-24 September

Centre for Medical Radiation Physics is hosting the 16th Solid State Dosimetry International Conference in Sydney. The Solid State Conference is a highly interdisciplinary event, bringing together scientists from many disciplines ranging from theoretical solid state physics, clinical medical physicists to earth scientists working on luminescence dating.

Registration details at www.uow.edu.au/conferences/SSD16

IHMRI Central

Your online forum

If you have registered as a Member or Collaborator (i.e. you are active in research) check out IHMRI Central, our online community for IHMRI researchers.

This is where you will find all IHMRI research theme-specific news, documents and events.

The blog has been set up as an online forum, allowing you to post your own news, requests and comments for others to read and respond to – so please do contribute.

Go to <http://it-innovation.uow.edu.au/pilot/ihmrihub>

Your Network – an update

You have probably received this e-newsletter because you are a registered member of the IHMRI Research Network. If you have colleagues who may be interested, please forward this email and invite them to join online at ihmri.uow.edu.au/network

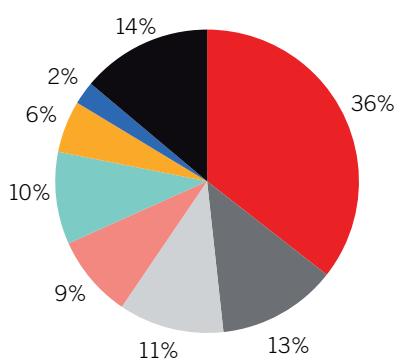
The IHMRI research network continues to grow. As of end May 410 people have registered to join the network as associates, members or collaborators

- ▶ 292 members/collaborators
- ▶ 96 associates (individuals)
- ▶ 22 associates (organisations)

The network is proving a very valuable mechanism for identifying the impressive range of skills, backgrounds and experiences among academics and health professionals in the region.

Those registering for the Network represent a broad range of professions – from specialist clinicians to health service managers to academic researchers – as well as a range of organisations, from public hospitals to private clinics, community organisations to universities.

For more information or to register for membership, please go to ihmri.uow.edu.au/network



Network Members by Profession (May 2010)

- University Researchers
- Allied Health Professionals
- Nurses
- Specialist Clinicians
- Manager/Administration
- PhD Students
- General Practitioners
- Other

Meet a Network Member

Katina Michael

Where are you working at the moment?

I'm in the School of Information Systems and Technology, Faculty of Informatics, University of Wollongong. I'm mainly teaching within the Social Policy major, which looks at the social implications of technology on the individual, business and government.



What's your primary interest in health?

I've always been fascinated by the miniaturisation of technology, especially implantable devices entering the human body. I've often said we have the potential to be walking around with the ENIAC in our body (the ENIAC was the first computer which took up the space of a large room!). Into the future, we might all be bearers of tiny implantable microchips for one reason or another - physiological measure for human activity monitoring, location based services for rehabilitation and medical insurance purposes, or health identifiers for citizen ID for medical services.

What are your main research interests?

I've joined two panels in IHMRI's Neuroscience and Mental Health theme: 'neurological disorders' and 'child and adolescent mental health'. I have an interest in looking at breakthrough technologies, such as brain pacemakers that allow for deep brain stimulation aiding patients with Parkinson's disease or Tourette's syndrome, epilepsy or even depression. I'm specifically interested in the side-effects of these technologies and the cost/benefit to the individual.

I'm also interested in how emerging technologies such as online social networking tools may be affecting adolescent mental health. New technologies - if used appropriately - are extremely beneficial, but when misused can cause people to feel depressed and isolated, drive obsessive compulsive disorders out of control (e.g. checking for messages thousands of times a day) and even lead to suicide. Although researchers have long suspected a link between technology addiction (especially in an online and increasingly mobile setting) and the emergence of new clinical disorders, serious studies are still in their infancy.

Have you been involved in health and medical research before?

I haven't had much direct experience in health and medical research, but I've studied bioethical aspects and written on the concepts of 'uberveillance' and 'electrophorus' with collaborator A Prof Michael G Michael. Our published papers, which have crossed over into aspects of health and medical research, have been for the greater part exploratory. For example, the term 'uberveillance' has already been cited by health informatics researchers in relation to pervasive monitoring of physiological measures, yet we ourselves have not yet conducted any large-scale funded research in this domain. We hope to team up with medical practitioners for future collaborative opportunities.

What led you to join the IHMRI Research Network?

Interdisciplinary research has always appealed to me because of the novelty and discovery aspect. Joining IHMRI may give me an opportunity to help medical practitioners evaluate the success of clinical trials related to my research portfolio. For example, psychiatrists may be experts in diagnosing a disorder like obsessive compulsive disorder, but may have little technology-specific know-how on topics such as cyberbullying or phishing attacks. These 'new disorders' are not so simple to detect; they have a hidden dimension to them which makes it more difficult for family and friends to assist.

What would you hope to come out of your involvement in the Network?

My main aim in joining the Network is to raise awareness of the health implications of emerging social technologies. I'm certainly not a 'Luddite', but placing new and powerful technologies such as smart phones in the hands of inexperienced young people can be fraught with danger. Ideally I'd like to run workshops targeted at parents and carers, and others for adolescents, on how best to utilise new technologies, how to respond to random online attacks and to be able to delineate between acceptable use and misuse of technology. ■

